PLANT IMMIGRANTS

Issued monthly by the Office of Foreign Seed and Plant Introduction, Bureau of Plant Industry, Department of Agriculture.

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Genera Represented in this Number.

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Plate: Jujube orchard in Shantung, China.

(NOTE: Applications for material listed in this bulletin may be made at any time to this office. As they are received they are filed, and when the material is ready for the use of experimenters it is sent to those on the list of applicants who can show that they are prepared to care for it, as well as to others selected because of their special fitness to experiment with the particular plants imported.

One of the main objects of the Office of Foreign Seed and Plant Introduction is to secure material for plant experimenters, and it will undertake as far as possible to fill any specific requests for foreign seeds or plants from plant breeders and others interested.)

Canavali spp. (Fabaceae.) 35658-665. Seeds from Calcutta, India. Presented by Mr. David Hooker, Economic Botanist, through Mr. C. V. Piper, of this Bureau. Eight varieties of *C. gladiata* and *C. virosa* introduced for the studies of Mr. Piper on this group of forage plants. For distribution later.

Carica papaya. (Papayaceae.) 35473. Seeds of papaya from Manila, Philippine Islands. Presented by Mr. O. W. Barrett, Chief Division of Horticulture. "A more or less distinct form of the Hawaiian papaya. This form has been bred up by Mr. P. J. Wester at the Lamao Experiment Station. It is about 90 per cent hermaphrodite." (Barrett.) For distribution later.

Carica papaya. (Papayaceae.) 35582-586, 35668-670. Seeds of papaya from Boma, and Conga-da-Lemba, Belgian Congo. Presented by the Governor-General. Eight varieties described as being of superior flavor, and of uniform small size. For distribution later.

Citrus hystrix. (Rutaceae.) 35484. Seeds from Lamao, Bataan, Philippine Islands. Presented by Mr. P. J. Wester, Horticulturist, Division of Horticulture, Manila. "A large, thorny tree, 6 to 12 meters in height; the leaves are 16 to 24 cm. long and broadly winged, in fact the wing area sometimes exceeds the leaf area. The species is quite variable. The form sent you has smooth, oblate to pyriform-turbinate fruits. The surface is greenish lemon color, rind medium thick, flesh greenish, juicy, sharply acid, aromatic, contained in twelve to fourteen locules. The fruit makes a fair 'ade and is eaten together with fish by the natives, and is also used in cleaning clothes. As a fruit the cabuyao has little value, but it may on account of its remarkable vigor be a valuable stock for the other citrus fruits, and in fact I have several imported varieties growing on it now." (Wester.) For distribution later.

Colocasia spp. (Araceae.) 35485-490. Tubers of tannias from Trinidad, British West Indies. Presented by Mr. W. G. Freeman, Assistant Director of Agriculture. Six varieties cultivated locally. For distribution later.

Cucumis melo. (Cucurbitaceae.) 35643-657. Seeds of muskmelon from Laoling, Shantung, China. "These melons all love a rich sandy soil, with a small amount of alkali in it. The Chinese melon growers claim that to obtain

year in and year out the finest melons, one has to grow certain melons for seed entirely, that is the first two fruits from some selected plants should always be retained for future seed producers, for when one simply takes the ordinary melons, the strain very soon runs out and the quality gets worse and worse every year. They also admit that a slight difference in soil and location has very much to do with quality and that seeds from melons that were good in one locality produce inferior melons in another locality only a few miles away." (Meyer's introductions.) Thirteen varieties cultivated locally, and varying in color of flesh, size, shape and quality of fruit. For distribution later.

Cucumis sativa. (Cucurbitaceae.) 35643-644. Seeds of cucumbers from Laoling, Shantung, China. "Rare varieties of cucumbers said to be of local origin, growing 2½ feet in length, and always trained on trellises made from sorghum stems, so as to prevent the fruits from touching the ground. May do well in semi-arid regions." (Meyer's introductions.) For distribution later.

Cydonia cathayensis. (Malaceae.) 35639. Seeds of quince from Tsinanfu, Shantung, China. "A Chinese quince, the fuits of which are used by the better classes of Chinese as room perfumers. These fruits can easily be kept throughout the winter until late in spring. Some foreign missionaries have learned how to make preserves and jellies from these quinces, though the meat is quite woody. This Chinese quince grows into a tall shrub and it might perhaps be profitable to grow it in the mild wintered sections of the United States, so as to supply the Chinese colonies in America with one of their favorite fruits. The American people themselves may also come to like these fruits for the strong, pleasant aroma they produce." (Meyer's introductions.) For distribution later.

Glycine hispida. (Fabaceae.) 35622-628 Seeds of soybeans from Tsinanfu and Tientsin, China. Seven varieties, some used for producing beansprouts, others for beancurd, sauce, in soups, and roasted and salted similar to salted almonds. (Meyer's introductions.) For distribution later.

Juglans regia. (Juglandaceae.) 35610-613. Seeds of walnuts from Tsinanfu and Peking, China. Four varieties, three from the mountains northwest of Peking, the other from the semi-arid region around Tsinanfu. (Meyer's introductions.) For distribution later.

Lotus spp. (Fabaceae.) 35471-472. Plants from St. Andrews, Scotland. Collected by Mr. G. W. Oliver of this Bureau. A large form and a dwarf variety both "found growing near the seashore among grasses of a turfy nature and found on the golf links where they compete with the closely clipped grasses." (Oliver.) For distribution later.

Nicotiana tabacum. (Solanaceae.) 35642. Seed of tobacco, from Tsinanfu, Shantung, China. "A good broad leaved variety of tobacco, called 'Yen ye'. Able to withstand climates with very dry air: also does not object to a fair percentage of alkali in the soil or irrigation water." (Meyer's introduction.) For distribution later.

Persea americana. (Lauraceae.) 35673-676. Seeds of avocado from San Jose, Costa Rica. Presented by Mr. Otion Jiminez L., Chief, Department of Botany, National Museum. Two varieties, one described as having fruit "30 cm. (12 inches) in length and 10 cm. (4 inches) in width at its widest part. It is one of the largest varieties in Costa Rica. It is of delicious flavor and is called butter avocado (aguacate de mantequilla.)" The other is smaller, ovoid, and about 10-12 cm. in diameter. For distribution later.

Phoenix dactylifera. (Phoenicaceae.) 35573-574. Seeds of dates from Heyel, Central Arabia. Presented by Mr. Emil Sauer, American Consul, Bagdad, Mesopotamia. The varieties "Shakra" and "Sukkari" from the interior of the Arabian peninsula, both varieties occurring only at Heyel, from which place the difficulties of transportation make the introduction of offshoots practically impossible. For distribution later.

Prunus sp. (Amydalaceae.) 35640. Seeds of cherry from Peking, China. "A small, sweet early cherry, apparently rare, appearing on the Peking market early in May. The Chinese name is 'Ying tau'r'." (Meyer's introduction.) For distribution later.

Solanum melongena (Solanaceae.) 35635. Seeds of an eggplant from Laoling, Shantung, China. "A variety of eggplant, bearing large, round fruits of a white color. Very rare, even locally. Chinese name 'Pai che tze'." (Meyer's introduction.) For distribution later.

Solanum spp. Solanaceae.) 35491-569. Tubers and seeds of potatoes from Chile. Collected by Mr. W. F.

Wight, of this bureau. Seventy-nine varieties, some cultivated, some wild, some with yellow flesh, others with large edible berries, all introduced for the work of the Bureau in potato breeding. For distribution later.

Stizolobium spp. (Fabaceae.) 35677-684. Seeds from India. Presented by D. Hooper, Esq., Economic Botanist, Calcutta, through Mr. C. V. Piper. Eight varieties from various parts of India introduced for the work of the Office of Forage Crop Investigations in the study of this genus. For distribution later.

Ziziphus spp. (Rhamnaceae.) 35601-609. Fruits of Chinese jujubes from Tsinanfu, Tientsin, and Peking, China. Nine varieties. These were secured by Mr. Meyer on his recent trip through Shantung in search of especially fine varieties of the jujube, and they vary greatly in flavor and shape. For distribution later.

NOTES FROM CORRESPONDENTS ABROAD.

Costa Rica. San Jose. Mr. Carlos Wercklé writes June 30, "Within two months, more or less, the fruits of the matasano, *Casimiroa edulis*, will be ripe; I have arranged today to have some seeds forwarded to you from a farm in San Cristobal, about seven leagues from here. They shall send you mixed seeds of different trees, and separately, seeds of a single tree, which bears, by far, the best fruits I have ever found in the country; they are somewhat under average size, flattened, with a rough, ash grey skin; delicous! Few or no seeds, but if they gather all the seeds for me, as they promised me, you can get a few hundreds. I do not know to which degree the Casimiroa comes true from seed, therefore I shall send you also some scions of this special variety. As to *Passiflora membranacea* I do not know if I will be able to secure some seeds for you this year; I do not remember when the fruits are ripe; besides, I have found, till now, only three specimens of this plant: one near the top of the Poa's and two near Coliblanco, between the Irazú and the Turrialba. When in bloom the plant is as fine as *Antigonon leptopus* (*Corculum leptopus*) or *Bougainvillea glabra*; the fruit is eatable raw, but not good; cooked, as a vegetable, it is valuable; also for preserves, cooked with sugar. You have no idea of the difficulty with which we meet here to get seeds of such plants which are scarce and occur in distant mountains. One does not remember, generally, when they have ripe fruits; besides you can not find it out from the

people who live there; the expedition to such parts would cost a lot of money and at least three days time; never mind, one could spend this, but one is not sure to find a plant at all, much less to find it with ripe fruits."

India. Bangalore. Mr. A. H. Krumbiegel, Economic Botanist, writes June 10th in regard to the seeds of Kokia recently distributed by this office, that without clipping the fibre off the base as we recommended in a supplementary letter, the seeds received there when sown under ordinary conditions germinated most successfully, every seed having come up within eight days.

India, Saharanpur, Mr. A. C. Hartless writes under date of July 30, 1913, concerning the Indian plum: "As these are all deciduous, I think there will be no difficulty in sending you plants in the winter when they are dormant. I have not taken up the study of these very thoroughly yet. Their introduction into India, and their origin is as yet not clearly understood. Some botanists put them under var. *insititia* of *P. domestica,* on what grounds I do not know. Royle calls them *Prunus aloobokhara,* thus giving some idea where they came from originally. I firmly believe that it is in Persia, or adjacent countries that we shall find their home. I have studied Meyer's explorations in Turkestan, with interest. I find that many of the local names that he gave to plants he got there, are the same as they are known by in India. Your S.P.I. No. 30315 is of great interest to me, as Alibuchara is no doubt the same as Alubokhara, which is the vernacular here for one group of country plums. The same signifies the plum of Bokhara. Your No. 30356, is no doubt the same as our Alucha which is also another name for the other group. Your No. 30352, and possibly 30351 are the same as our China pear, which is so common in Northern India. Naspati is the vernacular name. If Mr. Meyer has published a report on his travels in this country (Turkestan), I should be very glad to be put in the way of getting it. I firmly believe that this country and others between it and India will afford most interesting and valuable material. Even Quetta in Baluchistan, can contribute to this, if it was properly worked out."

AN ALABAMA EXPERIMENT WITH BAMBOOS

Mr. George H. Todd has written us from Montgomery, Alabama, describing the behavior of bamboos in Alabama during the past thirty years. "I came into the possesion of these bamboos in this way; My father sent to the Department in 1880 and secured several varieties of these

Bamboos. He planted several varieties at his plantation and for some reason they never did thrive or at least we never could find any trace of them. They were planted in a wet swamp and for this reason I don't suppose they ever gained any roots. Several varieties my mother planted in her flower yard at home on high red clay soil and the consequence is that the whole front yard has been taken up with these canes. Our patch now measures fifty by one hundred and fifty feet, enough to transplant several acres I suppose, and I don't want to take them out of the ground until I am absolutely sure that I won't lose my start which has taken about thirty years to get. The culms are all good large healthy looking canes and I nurse them very much. Had this been done some years ago no telling what I would have now. I herewith copy two letters sent my father in 1882 and there was another letter which I misplaced but when I find it will send a copy. This letter stated the names and varieties of the different bamboos sent my father in the 80's.

UNITED STATES CONSULATE GENERAL.
KANAGAWA, JAPAN.
FEBRUARY 13, 1882.

George H. Todd, Esq.
Montgomery, Alabama.

My dear Sir;

In accordance with the promise in my letter of the 20th of January, I now forward to you by mail leaving tomorrow morning by the S. S. "Oceanic," two more tins of Bamboo roots of different varieties sent heretofore. I send them as I did the last, in the Government pouch with a request that they be forwarded to you at once.

Hoping that they may reach you in good order, I am

Yours truly,
(Signed) Tho's. B. Van Buren.

UNITED STATES DEPARTMENT OF AGRICULTURE.
WASHINGTON, D. C.,
May 29, 1882.

Mr. G. H. Todd,
Montgomery, Alabama.

Dear Sir;

In September this department sent you a shipment of Bamboo roots, received from Mr. Van Buren, U. S. Consul General at Kanagawa, Japan. As we have recently received many inquries relating to the introduction of the Bamboo into this country we would be very glad to hear from you

what success you met with in growing it and what your opinion is as to the suitability of our soil and climate to its production.

Very Respectfully,
(Signed) Geo. B. Loring, Commissioner.

You will note by the first letter that Father had received a shipment of Bamboo roots prior to this letter dated Feb. 1882 and evidently they did not thrive well and he sent for more. To the best of my recollections one of the varieties correspond with the one you describe in your pamphlet as "Mosa-chiku." As I remember the name in the first letter was something like "moasic."

ZIZIPHUS JUJUBA. JUJUBE.

"An orchard of a variety of jujube, called 'Hsiao tsao', showing the way all trees have been ringed to make them produce more fruit." From photograph by Mr. Frank N. Meyer, taken near Laoling, Shantung, China, March 31, 1913. The jujube is one of the five principal fruits of China and has been cultivated for at least 4000 years. There are hundreds of varieties, differing in shape, size and quality, some of the varieties producing seedless fruit, and others fruit the size of a hen's egg. The fruit is used fresh, candied, dried, or made into preserves. The seedless sort is stewed with rice much as raisins are used in this country. Trees of some of the larger fruited Chinese jujubes growing in Texas and California from plant material introduced from China by the Office of Foreign Seed and Plant Introduction have borne fruit of good size and quality. It is believed that this Chinese dryland fruit tree will be adapted to a wide area of the United States and prove of considerable importance as a new cultivated tree fruit.